UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,454	02/10/2004	Takao Saito	811_106	9153

25191 7590 02/11/2008

BURR & BROWN
PO BOX 7068
SYRACUSE, NY 13261-7068

EXAMINER	
TUROCY, DAVID P	
ART UNIT	PAPER NUMBER
1792	
MAIL DATE	DELIVERY MODE
02/11/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

1. For purposes of appeal, the proposed amendment(s) will be entered and the proposed rejection(s) detailed below will be included in the Examiner's Answer. To be complete, such rejection(s) must be addressed in any brief on appeal.

Upon entry of the amendment(s) for purposes of appeal:

Claim(s) 1-3, and 8 would be rejected for the reasons set forth in paragraphs 6 and 7 of the final Office action mailed 11/19/2007.

DETAILED ACTION

Response to Amendment

1. Applicants amendment, filed 1/29/2008, do not raise new issues that require further consideration on the record because the subject matter of claim 4 was incorporated into claim 1. Since the claims were rejected under the same prior art the applicant's amendment has been entered.

Response to Arguments

2. Applicant's arguments filed 1/29/2008 have been fully considered but they are not persuasive.

The applicant has argued against the Yara reference stating that the reference teaches away from pulse duration of less than 1000 ns. While the examiner agrees that Yara states that if the pulse duration is less than 1000 ns "the discharge becomes unstable." However, the maintains the position that one of ordinary skill in the art would reasonable expect 999 ns pulse duration to have effectively similar discharge stability as that of 1000 ns. Additionally, the applicant continual argues that Yara disclose 20

microseconds in the examples. However, the examiner maintains that such exemplary showings do not limit the teachings of Yara to a pulse duration of 20 microseconds. Specifically, Yara explicitly discloses 1000 ns, which is within the magnitude as claimed by the applicant.

The applicant has argued against the spectroscopic analysis difference in the main peak frequency, however, the examiner notes that this is clearly not commensurate in scope with the claims because the claims fail to appreciate the DLC characteristics and therefore this argument is deemed moot.

The applicant has argued against the combination of Yara and Mizuno. The applicant has argued Mizuno discloses vacuum and Yara discloses 100 torr and above and therefore the reference can not be combinable. The applicant then argues, from the figures, that Mizuno discloses a maximum voltage of 2.5 Torr Volts and therefore the maximum pressure of the process is 69 Torr, see arguments page 7. After a thorough review of the teachings of Mizuno the examiner can not locate such "maximum" teachings. Even in the event that the applicants review of the figures is correct, this exemplary teaching does not limit the teachings of the reference to such a narrow interpretation. Specifically, it appears as though the applicant is narrowly interpreting the teachings of the reference. Mizuno clearly discloses the benefit active control of the plasma CVD process by using pulse width duration of less than 1000 ns in combination with high-voltage. Additionally, the examiner notes that Mizuno discloses that it is well within the skill of one of ordinary skill in the art to control the plasma discharge by adjusting the pressure and input frequency (see first paragraph).

Therefore, one of ordinary skill in the art, taking the references collectively, would have desired to reap the benefits active control of the plasma with a reasonable expectation of successfully and predictably providing a PECVD discharge.

Mizuno also discloses that it is well within the skill of one ordinary in the art to modify the pressure, input power, frequency, and the like to optimize the plasma process. There, even in the event that Mizuno discloses that in the process as exemplified the maximum pressure is 69 torr, it is the examiners position that the combination of the teachings of Yara and Mizuno would have reasonably motivated one of ordinary skill in the art to have modified Yara to provide lower pulse duration to reap the benefit of active control of the plasma which results in control of the reaction selectivity and the life time of radicals and ions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID TUROCY whose telephone number is (571)272-2940. The examiner can normally be reached on Monday-Friday 8:30-6:00, No 2nd Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Timothy H Meeks/
Supervisory Patent Examiner, Art Unit 1792

/David Turocy/
Examiner, Art Unit 1792